

We Claim:

1. In a pastillation machine, an improved distribution system comprising:
a bar having a bore extending therethrough;
5 a series of holes located on an inlet surface of said bar;
a series of slots located on an outlet surface of said bar;
a diffuser located in said bore of said bar, said diffuser being
spaced between said inlet surface and said outlet surface; and
wherein said series of holes is aligned with flowable substance
10 outlets of said pastillation machine.
2. The distribution system claimed in claim 1 wherein said bar is
comprised of two separate parts that are coupled together.
- 15 3. The distribution system claimed in claim 2 wherein said bar is
comprised of a distribution bar and a feeder bar, said distribution bar having a
bore extending therethrough and being nested in said feeder bar and secured
thereto.
- 20 4. The distribution system claimed in claim 3 wherein said feeder
bar is a softer material than said distribution bar.
5. The distribution system claimed in claim 4 wherein said feeder
bar is ductile iron.
- 25 6. The distribution system claimed in claim 5 wherein said
distribution bar is steel.
7. The distribution system claimed in claim 1 wherein said bore is
30 rectangular in cross-section.

8. The distribution system claimed in claim 1 wherein said inlet surface of said bar is comprised of steel.
9. The distribution system claimed in claim 1 wherein said inlet surface of said bar is comprised of type 316 stainless steel.
10. The distribution system claimed in claim 1 wherein said outlet surface of said bar is comprised of ductile iron.
11. A diffuser for a distribution system for use in a pastillation machine, said diffuser comprising:
an elongate body sized to fit into a bore of said distribution bar;
a centering device coupled to said elongate body for engaging at least one surface of said bore of said distribution bar; and
wherein said centering device maintains said elongate body generally spaced from at least one wall of said bore of a distribution bar of said distribution system.
12. A diffuser as claimed in claim 11 wherein said centering device maintains said elongate body generally in the center of said bore.
13. A diffuser as claimed in claim 12 wherein said elongate body is a bar.
14. A diffuser as claimed in claim 13 wherein said elongate body is comprised of steel.
15. A diffuser as claimed in claim 14 wherein said elongate body is comprised of type 316 stainless steel.

16. A diffuser as claimed in claim 13 wherein said centering device comprises a series of tabs extending outwardly from opposing edges of said bar.

5 17. A diffuser as claimed in claim 16 wherein said tabs are formed in pairs along the length of said bar and alternating pairs of said tabs are bent in opposing directions.

18. A pastillation machine, said machine comprising:
10 a first cylinder having a first end and a second end and an outer surface, said first cylinder being supported at said first end and said second end;

a cavity formed in said first cylinder, said cavity being in communication with a source of a flowable substance;

15 a slot formed in said outer surface of said first cylinder, said slot being located between said first end and said second end;

fluid outlets located in said slot, said outlets being in communication with said cavity of said first cylinder;

a second cylinder surrounding said first cylinder and being
20 rotatable thereon, said second cylinder having rows of openings therein;

a distribution bar sized to fit into said slot and being sandwiched between said inner cylinder and said outer cylinder, said distribution bar having an inlet surface and an outlet surface and a bore extending therethrough;

25 a series of holes located on said inlet surface, said holes being aligned with said fluid outlets of said first cylinder for receiving said flowable substance therefrom;

a series of slots located on said outlet surface, said series of slots of said distribution bar being in communication with said rows of
30 openings in succession;

a diffuser located between said inlet surface and said outlet surface, said diffuser bar extending axially through said bore of said distribution bar;

and

5 wherein as said openings of said outer cylinder pass over said series of slots of said distribution bar, a predetermined amount of flowable substance passes through said openings and drops onto a conveyor located below said pastillation machine.

19. A machine as claimed in claim 18 wherein said diffuser further
10 comprises a centering device having a series of tabs extending outwardly from opposing edges of said diffuser.

20. A machine as claimed in claim 19 wherein said tabs are formed
in pairs along the length of said diffuser and alternating pairs of said tabs are
15 bent in opposing directions.

21. A machine as claimed in claim 18 wherein said flowable
substance is elemental sulphur or sulphur based fertilizers containing swelling
clay matrix, and macronutrients (N, P, K) and micronutrients (Fe, Cu, Zn, Mn,
20 etc.).